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REMARKS

In the office action, the examiner rejected Claims 1-20 under 35 U.S.C. 102(b) as being anticipated by Nimura et al. (U.S. Patent No. 6,202,026). Accordingly, the applicant has amended Claims 1 and 11 to more clearly differentiate the present invention from the technology disclosed by the cited Nimura et al. reference. More specifically, the applicant has added the limitations of "wherein the map data read out from the map data storage covers an area which is larger than that corresponds to the screen of the navigation system, and the converted data in the memory is used as is when zooming-in the map image, and additional map data is retrieved from the map data storage when zooming-out the map image when the converted map data in the memory is insufficient" to Claims 1 and 11. Claims 4 and 14 have been canceled.

The present invention aims to improve performance of a navigation system in zooming-in and zooming-out the image on the screen. In order to achieve this objective, the navigation system under the present invention is constructed such that zooming the map image can be performed without accessing the map data from the map data storage each time the zooming is to be performed. Namely, the map data that covers an area larger than the display screen area is retrieved from the map data storage such as DVD, hard disc, etc., and is stored in a separate memory device.

As shown in Figures 5A to 5C of the instant case, the data area 61 corresponding to the storage area of the memory device is much larger than the screen area (view area) 62 of the navigation

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system. As known in the art, because of the map data stored in the memory device that allows faster access than the map data storage such as a DVD, hard disc, CDRom, the delay time in retrieving the data can be minimized. For example, the original disclosure of the present application states that "Since the map data for one full screen or greater is already exists in the buffer memory 93, there is no need to acquire new data from the map memory 44 or the map data storage (DVD) 41", at page 15, lines 5 to 8.

In the case where the retrieved map data in the memory device is insufficient, which may arise when zooming-out the map image, a portion of the map data is retrieved from the map data storage 41 to cover the insufficient area. Moreover, the present invention provides a display method and apparatus for a navigation system which is capable of easily changing the map scale and finding a destination through the map image on the screen. Such essential features of the present invention are not shown or suggested by the cited Nimura et al. reference as discussed below.

The cited Nimura et al. reference shows a map display device that allows two-part split screen display where one display shows a magnified view of another window that is zoomed up. Although the cited Nimura et al. reference discloses a map image and the idea of scrolling the map image, the applicant does not find any description that describes how to perform the map scrolling and, in particular, how to retrieve map data and using additional data to cover the insufficient area. The cited Nimura et al. reference does not show the relationship between the size of the map data

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retrieved and the viewing area of the navigation screen. In other words, the cited Nimura et al. reference does not disclose the mechanism of the present invention to increase the operation speed for zooming-in and zooming out the image on the navigation screen. Furthermore, the cited Nimura et al. reference does not disclose the idea of changing the size of the map image based on the distance from the center of the screen of the navigation system.

Since the essential features of the present invention are not disclosed by the cited Nimura et al. reference, the rejection under 35 U.S.C. 102(b) is no longer applicable to the present invention.


In this opportunity, the applicant has amended the specification to correct the minor wording errors therein and to more clearly describe the present invention. This is to verify that no new matter has been introduced by this amendment.

Under the circumstances, the applicant believes that the present application is in the condition for allowance, and the applicant respectfully requests that the present application be allowed and passed to issue.

Respectfully submitted,

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